



WISCONSIN DWELLING CODE COUNCIL

DEPARTMENT OF SAFETY AND
PROFESSIONAL SERVICES

One- and Two-Family Dwelling Code Review and Recommendations

July 2014

TABLE OF CONTENTS

INTRODUCTION	1
SPS 320: ADMINISTRATION AND ENFORCEMENT	1
REVIEW	1
RECOMMENDATIONS	1
SPS 321: CONSTRUCTION STANDARDS	2
REVIEW	2
RECOMMENDATIONS	2
SPS 322: ENERGY CONSERVATION	4
REVIEW	4
RECOMMENDATIONS	4
SPS 323: HEATING, VENTILATING AND AIR CONDITIONING	4
REVIEW	4
RECOMMENDATIONS	4
SPS 324: ELECTRICAL STANDARDS	4
REVIEW	4
RECOMMENDATIONS	5
SPS 325: PLUMBING	5
REVIEW	5
RECOMMENDATIONS	5

INTRODUCTION

The Dwelling Code Council that is created under section 15.407 (10) of the Wisconsin Statutes advises the Department of Safety and Professional Services on construction standards for one- and two-family dwellings. These standards are contained in the *Wisconsin Uniform Dwelling Code*, which consists of chapters SPS 320 to 325 of the Wisconsin Administrative Code.

Appointed by the Governor for two-year staggered terms, each council member represents at least one of the following interest groups: building-trade labor organizations; certified building inspectors who are employed by local units of government; building contractors actively engaged in on-site construction of one- and two-family dwellings; manufacturers, retailers, or installers of manufactured or modular one- and two-family dwellings; architects, engineers, or designers who are registered under chapter 443 of the Statutes and who are actively engaged in the design or evaluation of one- and two-family dwellings; the construction-material supply industry; remodeling contractors actively engaged in the remodeling of one- and two-family dwellings; persons with disabilities, as defined in section 106.50 (1m) (g) of the Statutes; and fire-prevention professionals. An employee of the Department, as designated by the Secretary of the Department, serves as the secretary of the Dwelling Code Council but does not act as a member of the Council.

In 2013 and 2014, the Dwelling Code Council met X times and developed several recommendations for updating the *Wisconsin Uniform Dwelling Code*, based in part on comparisons to the 2009 and 2012 editions of the *International Residential Code*[®] (IRC). This report, as required by section 101.62 of the Statutes, describes the Council's review of the *Code* during those meetings, and presents the Council's recommendations in the same sequence as the sections in chapters SPS 320 to 325. Included with each recommendation is an estimate of whether implementing the recommendation will result in cost savings (CS), time saving (TS), or easier use of the Code (EU) – along with reference to any other benefits, such as improvement of structural integrity, improvement of safety, or expansion of options.

SPS 320: ADMINISTRATION AND ENFORCEMENT

REVIEW

1. Wall-bracing details on construction plans.
2. Standards adopted by reference.

RECOMMENDATIONS

1. Replace the requirement in SPS 320.09 (5) (b) 2. d. for showing braced wall lines on construction plans with instead requiring a Legend that details the wall-bracing method and the lengths or number of braced wall panels – and where more than one circumscribed rectangle is used, requiring definition of them (CS, TS, EU, and provides clarification).
2. Update each of the standards that are adopted in SPS 320.24 (2), to their current editions; and adopt any new standards that would be helpful (CS, TS, EU, and reflects current engineering practices).

SPS 321: CONSTRUCTION STANDARDS

REVIEW

1. Fastening of building components.
2. Sliding-door openings.
3. Stairway clear width at and below a handrail.
4. Winder steps.
5. Handrails versus guardrails.
6. Baluster spacing on a stairway.
7. Openings in non-rigid guardrail material.
8. Stairway handrail height.
9. Exterior landings.
10. Guardrails for ramps.
11. Safety glazing.
12. Ceiling height.
13. Fire-rated construction of an exterior wall for a garage adjacent to another structure.
14. Interconnection of smoke alarms.
15. Wood siding or sheathing in contact with concrete or masonry and within 6 inches of final grade.
16. Drainage of exterior grade and impervious surfaces away from a dwelling.
17. Frost protection for a ramp or landing.
18. Lateral support for a foundation wall.
19. Bridging for a wood-framed floor.
20. Decks serving an exit.
21. Wall bracing.
22. Basement sidewalls that provide wall bracing.

RECOMMENDATIONS

1. Update the fasteners which are required by SPS 321.02 (1) (d) and which are listed in the SPS 320 to 325 Appendix, to match the fasteners which are required by Tables R602.3(1) and R802.5.1(9) in the 2012 edition of the IRC (provides consistency with current technology and products).
2. Revise SPS 321.03 (7) (a) 4. to decrease the 30-inch-wide clear opening for a sliding exit door to 29 inches (CS, TS, EU).
3. Revise section SPS 321.04 (2) (a) 1. to make it consistent with the last sentence of IRC section R311.7.1, which lists a minimum clear width of 31½ inches for a handrail on one side and 27 inches for a handrail on both sides (EU and provides clarification).
4. Revise SPS 321.04 (2) (c) 4, a. to no longer require a tread depth at any place on a winder step to match the tread depth of the rectangular steps in the stairway – and to instead require a minimum depth of 9 inches at a distance of 12 inches from the narrow end of the tread or from the inside face of the wall, baluster or spindle at that end. Also consider whether the terminology for winder steps should more closely match the terminology in the IRC, such as the references there to the walk line on winder steps.
5. Clarify SPS 321.04 (3) (a) by separating the handrail requirements from the guardrail requirements (EU).

6. Update SPS 321.04 (3) (a) 3. by increasing the allowed opening between balusters on a stairway, from 4 inches to 4 3/8 inches, as allowed by exception 2 in IRC section R312.1.3 (CS and increases uniformity).
7. Expand SPS 321.04 (3) (a) 3. to require applying up to 4 pounds of force in determining whether a 4-inch-diameter sphere will pass through an opening in any non-rigid material in a guardrail (provides clarification).
8. Revise SPS 321.04 (3) (b) 1. to include the handrail-height protrusions that are allowed by the two exceptions in section IRC R311.7.8.1 (CS, TS, EU, and provides clarification).
9. Revise SPS 321.04 (4) (b) and (c) to differentiate exterior landings from interior landings, and to then require drainage for the exterior landings (improves structural integrity and safety).
10. Revise SPS 321.045 (4) (c) to not require guardrails for ramps having a walking surface that is less than 24 inches above adjacent grade – if a toe-kick or side rail is provided to 4 inches above the walking surface, and a mid-rail is provided between there and the handrail (CS, TS, EU).
11. Revise SPS 321.05 (3) to recognize use of ANSI Z97.1 as a test standard for safety glazing that is required in locations which are not regulated by the US Consumer Product Safety Commission, review whether this glazing can be safely omitted in any of these locations, and consolidate the safety-glazing requirements from SPS 321.04 (3) (a) 4. c. into this section (CS, EU, and updates the rules to current national standards).
12. Revise SPS 321.06 to not count any area with a height of less than 5 feet when calculating whether at least 50% of a habitable room or corridor has a height of at least 7 feet. Also revise SPS 321.05 (1) and (2) to likewise not count this area when calculating the needed amount of natural light and ventilation for the room (CS, EU, provides clarification, and expands options).
13. Revise Table 321.08 to require at least a 10-foot separation between any unprotected opening in the wall and the other structure (EU and provides clarification).
14. Update SPS 321.09 (2) (a) to allow the interconnection between smoke alarms to be wireless (CS, TS, EU, recognizes current technology, and expands options).
15. Revise SPS 321.10 (2) (f) to no longer require preservative treatment or natural decay resistance for wood siding or wood sheathing which is in contact with concrete or masonry and which is from 2 to 6 inches above final exterior grade (provides clarification, improves structural integrity, and expands longevity of buildings).
16. Expand SPS 321.12 to address (1) drainage of impervious surfaces, by applying equivalent-performance-type criteria; and (2) alternate drainage methods for both pervious and impervious surfaces, where a distance of 10 feet away from the dwelling is not available (provides clarification, expands options, and improves structural integrity).
17. Exempt exterior ramps from the requirement for differential-frost-movement isolation in SPS 321.15 (1) (e), apply the frost-protection requirements in SPS 321.16 (1) (a) to landings instead of to ramps, and exempt ramp posts from those frost-protection requirements. However, where a ramp abuts a frost-protected stoop or landing, that end of the ramp needs similar frost-protected support, such as bearing onto the stoop or landing, so that a tripping hazard is not created. (CS, TS, EU)
18. Expand SPS 321.18 (1) (c) 3. a. to convey the strength that is provided by the specified anchor bolts, in order to aid use of alternates which provide equivalent strength (CS, EU, provides clarification, and expands options).
19. Add a Note to SPS 321.22 (9) (a) explaining that the required bridging for a wood-framed floor applies to 2X10 or deeper joists (EU, provides clarification, and makes the requirement understandable).

20. Comprehensively update and clarify the requirements for decks, in SPS 321.225, preferably through an emergency rule that precedes a permanent rule (TS, EU, and improves structural integrity).
21. Comprehensively update, streamline, and clarify the wall-bracing requirements in SPS 321.25 (8) and (9), first through an emergency rule and then through a corresponding permanent rule (TS, EU).
22. For a walk-out basement having a sidewall partially constructed with full-height studs and partially with full-height concrete, develop prescriptive parameters for including the concrete-wall portion as part of the required wall bracing (CS, TS, EU).

SPS 322: ENERGY CONSERVATION

REVIEW

1. Unheated spaces.
2. Nonessential uses of natural gas.
3. Posting R-values for insulation and U-factors for windows and doors.
4. Insulation and air-sealing for an attic-access cover.

RECOMMENDATIONS

1. Revise section SPS 322.01 (3) to no longer require a vapor barrier for an unheated space, such as an attached, unheated garage (CS, TS).
2. Delete the Note under SPS 322.01, that refers to the Public Service Commission's regulation of nonessential uses of natural gas, which was discontinued by 2011 Wisconsin Act 154 (reflects statutory changes).
3. Repeal the requirements in SPS 322.20 (6) relating to posting a certificate by the electrical distribution panel, for showing the predominant R-values of the home's insulation such as in the ceilings, roofs, and walls; and the U-factors for all windows, skylights, and doors (CS, TS, EU).
4. Revise SPS 322.31 to require an R-value of at least R-20 for an attic-access cover having foam insulation, and at least R-38 for a cover having fiberglass insulation (CS, TS, EU).

SPS 323: HEATING, VENTILATING AND AIR CONDITIONING

REVIEW

RECOMMENDATIONS

SPS 324: ELECTRICAL STANDARDS

REVIEW

RECOMMENDATIONS

SPS 325: PLUMBING

REVIEW

Tankless water heaters.

RECOMMENDATIONS

Expand chapter SPS 325 to include the water-heater sizing criteria contained in the Department's Alternate Approval #20090426, until chapters SPS 381 to 387 are revised to include the criteria (CS, TS, EU).

File reference: SPS 320-325/Report 5